

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
15 December 2005 (15.12.2005)

PCT

(10) International Publication Number  
**WO 2005/119012 A1**

(51) International Patent Classification<sup>7</sup>: **F01D 21/02**,  
F02C 9/28, 9/46

(CA). REID, Matthew, Robert [CA/—]; 1765 des Erables, St. Bruno, Quebec, J3V4P2 (CA).

(21) International Application Number:  
PCT/US2005/019699

(74) Agent: SILVIA, David, J.; Edwards & Angell, LLP, P.O. Box 55874, Boston, MA 02205 (US).

(22) International Filing Date: 3 June 2005 (03.06.2005)

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(26) Publication Language: English

(30) Priority Data:  
60/576,779 3 June 2004 (03.06.2004) US

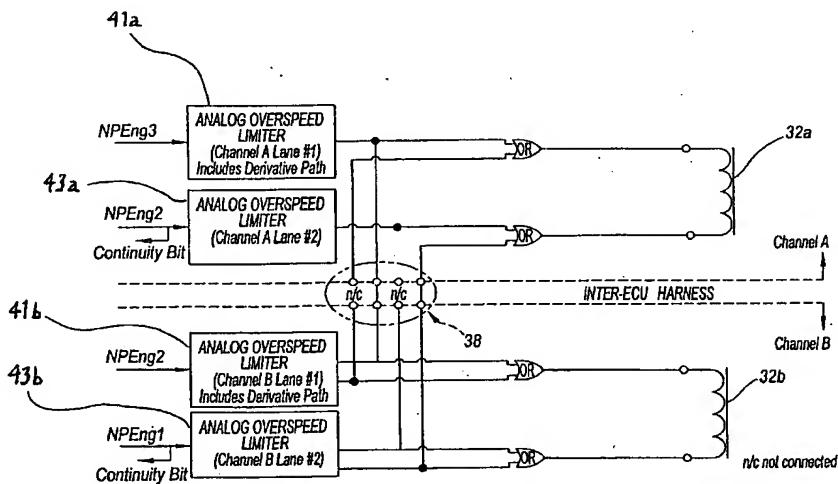
(71) Applicant (for all designated States except US):  
**GOODRICH PUMP & ENGINE CONTROL SYSTEMS, INC.** [US/US]; Box 330651, Charter Oak Boulevard, West Hartford, CT 06133-0651 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ROGERS, David, M.** [US/US]; 51 Oakengates, Avon, CT 06001 (US). **ZAGRANSKI, Raymond, D.** [US/US]; 50 Cricket Lane, Somers, CT 06071 (US). **MANNARINO, Giovanni** [CA/CA]; 153 Vivian, Town Of Mount Royal, Quebec

[Continued on next page]

(54) Title: OVERSPEED LIMITER FOR TURBOSHAFT ENGINES



(57) Abstract: The subject invention is directed to a control system for a turboshaft engine utilized in a helicopter which includes means for providing minimum fuel flow to the engine when an overspeed condition is detected at a relatively low altitude (e.g., below 10,000 feet), and means for shutting off fuel flow to the engine, and thus shutting down the engine, when an overspeed, loss of load condition is detected at a relatively high altitude (e.g. above 10,000 feet). The overspeed, loss of load condition is detected along two different engine speed signal paths, including a derivative path and a non-derivative path.

WO 2005/119012 A1



**Published:**

— *with international search report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*